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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,118	01/03/2002	Terry J. Logan	10465/45	1036

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EXAMINER

RINEHART, KENNETH

ART UNIT PAPER NUMBER

3749

DATE MAILED: 11/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/034,118

Applicant(s)

LOGAN ET AL.

Examiner

Kenneth B Rinehart

Art Unit

3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-18,35-51,59-61,64-67,72 and 75-77 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 75 is/are allowed.
- 6) ☒ Claim(s) 11-15,35-46,49-51,59-61,64-66,72,76 and 77 is/are rejected.
- 7) ☒ Claim(s) 16-18,44,47,48,67 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION***Response to Arguments***

Applicant's arguments filed 11/13/03 have been fully considered but they are not persuasive. The applicant referring to 35 USC 113 argues that one of ordinary skill in the art would not fail to understand this claimed subject matter without a drawing. The examiner respectfully disagrees, since, the drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. The examiner is relying on the appropriate rule to administer proceedings in the PTO and to establish uniform and orderly conduct of business. The applicant next argues that there is no suggestion in either Wurtz or Zauderer that would motivate one of ordinary skill in the art to use the specific source of ammonia as recited in independent claims 11 and 35 to reduce NOX in a coal burner. The examiner respectfully disagrees. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In this case, it specifically discusses in the secondary reference of Zauderer the cost advantages of ammonia over urea, so that it would provide a cheap alternative for a reducing agent. The applicant appears to be putting forth the argument of why an individual of ordinary skill in the art would take the secondary reference of Zauderer and modify it with the primary reference of Wurtz. As the John Deere analysis indicates it is the secondary reference of Zauderer which is modifying the primary reference of Wurtz. The primary reference discloses certain limitations in

Art Unit: 3749

the claims. It is the secondary reference which is providing the missing limitations and the motivational reasoning. The applicant next argues that the combination of Wurtz or Baer et al does not teach or suggest introducing liberated ammonia into the coal burner of a coal burner of coal burning power plant. The examiner respectfully disagrees. Any fair reading of the reference and figure 2 will indicate that the ammonia is injected into the coal burner. The applicant next argues that Wurtz in view of Baer is deficient in respect to an ammonia feed compressing ammonia liberated from the organic waste upon drying a mixture of organic waste and a coal combustion byproduct. Once again any fair reading of the reference will reveal that the limitations are contained in the reference for the material includes kiln dusts, and the pellets emerging from the apparatus are at least partially dry. The applicant next attempts to argue that there is no mention in Wurtz that the resultant product may be further mixed with coal, let alone fed to a coal burner of a coal burning power plant. This statement is correct as it was the secondary reference of Baer which is used to teach this limitation. The applicant next argues that there is no motivation to combine the teachings. The examiner respectfully disagrees. The secondary reference clearly discusses how SO₂ and NO₂ emissions are reduced.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the dryer is selected from the group consisting of direct concurrent flow dryers, horizontal single, double and triple pass indirect dryers, and vertical counter flow rotating disk indirect dryers, said drying is conducted using a direct dryer, said drying is conducted using an indirect dryer, reacting scavenged exhaust gases from said drying with at least one reactive material to decrease the amount of CO₂, SO₂, and

Art Unit: 3749

SO₃ in said exhaust gases and thereby decrease emissions from the drying, said coal and said dried mixture of organic waste and coal combustion by products are mixed and then pulverized, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-15, 35-43, 45, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wurtz in view of Zauderer. Wurtz discloses mixing organic waste (sludge, fig.), one or more coal combustion by products (beneficiating material, col. 5, lines 57-60), and one or more alkaline additives (quicklime, fig.) to form an organic waste/ coal combustion by products/alkaline additive by product mixture (fig.), drying said organic waste/coal combustion by-products/alkaline additive by product mixture with heat (col. 8, lines 1-13), causing ammonia to be liberated from said organic waste (ammonia, fig.), said drying comprises drying the organic waste coal combustion by products/alkaline additive by product mixture to at least 75 % solids or 50 % (col. 8, line 45-48), drying with heat the organic waste coal combustion by product mixture to at least 50 % solids forming a dried organic waste coal combustion by product mixture and causing ammonia to be liberated from said organic waste (col. 5, lines 17-21, ammonia, fig. 1) the

Art Unit: 3749

organic waste coal combustion by product mixture has a PH of at least 9.5 (col. 5, line 60), further including mixing lime with the organic waste coal combustion by products (col. 5, line 54), said organic waste comprises waste selected from the group consisting of sewage sludges, animal manures, pulp and paper waste, fermentation waste, food waste, paper and cardboard, other industrial organic waste and mixtures thereof (col. 1, line 13-15), said coal combustion by products comprise at least one by product selected from the group consisting of fly ash, fluidized bed ash, flue gas desulphurization by products, lime, calcium hydroxide, calcium carbonate, and mixtures thereof (col. 3, lines 46-53), said drying is conducted using a direct dryer (4, fig.), when said coal combustion by product comprises an alkaline mineral by-product, the drying step produces a further by product (6, fig.). Wurtz discloses applicant's invention substantially as claimed with the exception of introducing said liberated ammonia into a coal burner of a coal burning power plant, reacting scavenged exhaust gases from the power plant with at least one reactive material so as to decrease the amount of pollutant gases in said exhaust gases. Zauderer teaches introducing said liberated ammonia into a coal burner of a coal burning power plant (col. 6, line 59), reacting scavenged exhaust gases from the power plant with at least one reactive material so as to decrease the amount of pollutant gases in said exhaust gases (col. 7, lines 18-21, col. 1, lines 41-45) for the purpose of providing a cheap alternative for a reducing agent. It would have been obvious to one of ordinary skill in the art to modify Wurtz by including introducing said liberated ammonia into a coal burner of a coal burning power plant as taught by Zauderer for the purpose of providing a cheap alternative for a reducing agent to lower operating costs. Wurtz in view of Zauderer discloses applicant's invention substantially as claimed with the exception of said dryer is selected from the group consisting of direct concurrent flow dryers,

Art Unit: 3749

horizontal single, double and triple pass indirect dryers, and vertical counter flow rotating disk indirect dryers, said drying is conducted using a direct dryer, said drying is conducted using an indirect dryer. It would have been an obvious matter of design choice to modify Wurtz to provide said dryer is selected from the group consisting of direct concurrent flow dryers, horizontal single, double and triple pass indirect dryers, and vertical counter flow rotating disk indirect dryers, said drying is conducted using a direct dryer, said drying is conducted using an indirect dryer, since applicant has not disclosed that the type of dryer solves any stated problem in a new or unexpected way or is for any particular purpose which is unobvious to one of ordinary skill and it appears that the claimed feature does not distinguish the invention over similar features in the prior art, since the dryer of Wurtz will perform the invention as claimed by the applicant. Note: The applicant states in his response dated October 21, 2003 that the particular type of dryer employed is not critical (page 9, lines 21-22). This statement is construed as an admission against interest.

Claim 49-51, 59-61, 64-66, 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wurtz in view of Baer et al. Wurtz discloses mixing organic waste (sludge, fig.), one or more coal combustion by products (beneficiating material, col. 5, lines 57-60), and one or more alkaline additives (quicklime, fig.) to form an organic waste/ coal combustion by products/alkaline additive by product mixture (fig.), drying with heat said organic waste/coal combustion by-products to at least 50 % solids forming a dried organic waste coal combustion by product mixture (col. 8, lines 1-13, col. 5, lines 17-21, ammonia, fig. 1), causing ammonia to be liberated from said organic waste (ammonia, fig.), ammonia liberated from organic waste upon drying a mixture of organic waste and one or more combustion by-product (ammonia fig.).

Art Unit: 3749

Wurtz discloses applicant's invention substantially as claimed with the exception of mixing the dried organic waste coal combustion by product mixture with coal, the coal is pulverized coal, feeding the mixture formed by mixing the by product with coal into said coal burner, introducing said liberated ammonia into a coal burner of a coal burning power plant, a coal burner of a coal burning power plant; a coal feed supplying coal to said coal burner; and an ammonia feed to said to said coal burner, the coal feed comprises coal and a dried mixture of organic waste and coal combustion by product. Baer et al teaches mixing the dried organic waste coal combustion by product mixture with coal (60, fig. 2), the coal is pulverized coal (40, fig. 2), feeding the mixture formed by mixing the by product with coal into said coal burner, the coal feed comprises coal and a dried mixture of organic waste and coal combustion by product (60, fig. 2), introducing said liberated ammonia into a coal burner of a coal burning power plant, a coal feed supplying coal to said coal burner; and an ammonia feed to said to said coal burner (45, fig.2), a coal burner of a coal burning power plant (40, fig. 2) a coal feed for supplying coal to said coal burner (40, fig. 2) for the purpose of removing pollutants. It would have been obvious to one of ordinary skill in the art to modify Wurtz by including mixing the dried organic waste coal combustion by product mixture with coal, the coal is pulverized coal, feeding the mixture formed by mixing the by product with coal into said coal burner, the coal feed comprises coal and a dried mixture of organic waste and coal combustion by product, introducing said liberated ammonia into a coal burner of a coal burning power plant, a coal burner of a coal burning power plant; a coal feed supplying coal to said coal burner; and an ammonia feed to said to said coal burner as taught by Baer et al for the purpose of removing pollutants to meet environmental requirements.

Claims 76-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baer et al in view of Morimoto et al. Baer et al discloses a coal burner of a coal combustion power plant (10, fig.2); and a feed of coal (40, fig. 2) and a mixture of organic waste coal combustion by products to said coal burner, one or more coal combustion by products and one or more alkaline additives (58, fig. 2), wherein said coal and said mixture of organic waste coal combustion by products or one or more coal combustion by products and one or more alkaline additives are mixed and then ... (60, fig. 2). Baer et al discloses applicant's invention substantially as claimed with the exception of pulverized. Morimoto teaches pulverized for the purpose of providing superior performance. It would have been obvious to one of ordinary skill in the art to modify Baer et al by including pulverized as taught by Morimoto for the purpose of increasing the surface area of the additive to provide superior performance of the additive.

Allowable Subject Matter

Claim 75 is allowed.

Claims 16-18, 44, 47, 48, 67 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 3749

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth B Rinehart whose telephone number is 703-308-1722. The examiner can normally be reached on 7:30-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus can be reached on 703-308-1935. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

KBR



Kenneth Rinehart

Patent Examiner

AU 3749